

ABSTRACT

A data access arrangement (DAA) having improved surge protection. The DAA incorporates a high voltage clamping device functioning to protect line side circuitry from signal paths created by EMI capacitors. In one embodiment of the invention, EMI capacitors are added
5 between the “plus” and “minus” terminals of the diode bridge of the DAA to balance and reduce noise injection onto the TIP and RING lines. These EMI capacitors also reduce EMI interference. However, by adding EMI capacitors on this side (the “rectified side” or “line side”) of the diode bridge, a high voltage signal path to earth ground is created that may have deleterious effects on the line side circuitry. To effectively negate undesirable signal paths
10 through the EMI capacitors, the DAA includes a high voltage clamping device (e.g., a MOV, SIDACTor™, gas discharge tube or similar device) disposed between the plus and minus terminals of the diode bridge for suppressing high voltage spikes. The high voltage clamping device limits the voltage seen by the line side circuitry as a result of high voltage longitudinal surges by providing a current path from the plus terminal to the minus terminal of the diode
15 bridge, thereby effectively bypassing the line side circuitry. The present invention recognizes and takes advantage of the fact that the diodes of a typical diode bridge are capable of withstanding the peak currents associated with most voltage surges.